

records, and those of Holmgren, this ecitonophile seems to be characteristic of *hamatum* armies and widely distributed, though the number of individuals in a colony is not large.

Mimopria is undoubtedly parasitic on its host, probably on the immature phases. Like many other ecitonophiles it closely resembles the ant both in form and in manner of progression and in the possession of some quality that ingratiates it with the host. *Eciton* being altogether carnivorous it is possible that *Mimopria*, like certain other myrmecophiles, takes no food during the imaginal stage of its existence.

SPHEX OVERCOMING OBSTACLES.

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The front yard of one of the public schools of Wellston, Missouri is bordered on the south by a low picket fence and on the west by a four-foot fence constructed of upright boards placed close together. Between the school house and the front fence there is a fifteen foot lawn. About ten feet west of the board fence and at about the same distance from the street as the school there is a wooden cottage the first floor of which is about four feet above the ground. The space beneath this house is walled in so as to form a cellar.

At about noon, June 28, 1911, I discovered a digger wasp (*Sphex* sp. ?) moving backward and dragging a spider across this school lawn. The wasp continued her westward course until she had backed into the wooden fence. Then, after depositing the spider in the grass, *Sphex* flew over the fence and descended obliquely towards the northwest until she had reached the door of the cellar mentioned in the first paragraph. After pausing there a moment, the wasp returned to the school yard, picked up the spider and began to climb backwards up the fence. Everything moved along smoothly until the upper scantling to which the fence boards were attached was reached. (Inequalities in the lawn made it possible for the wasp to mount the lower scantling.) *Sphex* tried and tried but she could not back over that scantling with her burden. She

then descended to the ground, deposited her spider in the grass, made a short flight of orientation and then revisited the cellar door.

Returning to the school yard, the wasp picked up the spider and began to drag it up the fence. Soon she backed into the upper scantling and found it impossible to climb over it with her burden. This time, however, she did not return to the ground; but, changing her tactics, *Sphex* backed away towards the south until she reached the corner of the fence, which was fully six feet away. Then backing towards the east, she moved along the front fence until she had arrived at the space between two pickets. Still dragging the spider after her, the wasp backed through to the outside of the fence. Turning around the wasp moved westward and downward until she reached the ground at the southwest corner of the fence, where she deposited her spider in a clump of grass. After making a short flight of orientation, the wasp flew, in practically a straight line, to the cellar door. The line of flight on this occasion made an angle of about 45 degrees with the line of her former flights to the door.

Soon *Sphex* returned to the fence corner, seized the spider by its pedipalpus and, walking backwards, dragged the spider across the ground to the cellar door. There she deposited the spider on the ground and, after a short flight of orientation, flew to and examined the door. Returning to the spider, the wasp attempted to drag it to a crack at the top of the cellar door. The task seemed to be too difficult, and, after several failures, the wasp placed the spider on the ground, and, without making a flight of orientation reexamined the cellar door. Returning to the spider, she attempted to drag it to an opening that was much nearer the ground; but was defeated by a scantling over which she could not drag her burden. Depositing the spider on the ground, she flew to the door and soon found another opening. When she attempted to drag the spider to this opening, she was prevented by another piece of scantling. Once more the spider was returned to the ground while the wasp made another careful examination of the cellar door. Returning to the spider, *Sphex* picked it up and, moving backwards, dragged it to a knot hole in the door and passed into the cellar with her prey.

The behavior of this wasp does not harmonize at all with the

theory that the movements of wasps are tropisms in the sense the term is used by Loeb; nor is it apparent how it can be the result of what Thorndike calls "trial and error" movements. Her whole behavior is that of a creature struggling, against obstacles, to attain a certain known place in a known environment.

DIPTEROLOGICAL NOTES.

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Chionea valga Harris.

A specimen was found by Mr. J. H. Emerton while sifting for spiders at Tyngsboro, Mass., December 6, 1911. This date was more than three weeks prior to any snow in this section, and indicates that the appearance of this insect on snow is merely accidental. The imago probably emerges during the late fall and passes the winter in that state. The difficulty in seeing this wingless gnat excepting when it happens to crawl upon the snow, makes its life habits hard to study.

Cholomyia longipes Fabricius.

Musca longipes Fabr., Syst. Antl., p. 298, 1805.

Cholomyia inuquipes Bigot, Bull. Soc. Ent. France, Vol. IV. 6 ser., pt. 2, p. XXXVII, 1884.

Thelairodes basalís Giglio-Tos. Bull. R. Univ. Torino, VIII, No. 147, p. 3, 1893; Ditt. del Mess. III, p. 65, 1894.

While studying some South American diptera, my attention was called to a specimen which had been in my collection for some time that had been collected by Mr. E. Daecke at Richmond Hill, Long Island, N. Y., July 2, 1901. I was greatly surprised to find that it agreed with a specimen from the Caura Valley, Venezuela, collected by Mr. S. M. Klages. Recently Dr. O. A. Johannsen spoke of a specimen taken at Ithaca, N. Y., which he identified as *C. inuquipes* Bigot, as figured by Van der Wulp (Biol. Cent. Amer. Dipt., II, 247, pl. 4, f. 1, 2.) This distribution is further augmented by specimens in the National Museum from Peaks of Otter, Va. (W. Palmer); Mo. (from *Conotrachelus*); and Marion, La., bred